

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (original) A double-gimbaled micromachined mirror structure for parallel-plate electrostatic operation, said mirror structure comprising:
 - a frame;
 - a mirror;
 - a gimbal around said mirror;
 - a plurality of hinge structures at four positions on said gimbal, a first pair of said hinge structures connecting said mirror to said gimbal and a second pair of said hinge structures connecting said frame to said gimbal, said hinge structures permitting motion substantially only normal to said mirror and wherein adjacent each element of said second pair is a tab extension from said mirror for serving as rotational displacement limitation; and
 - overhanging structure adjacent each of said four positions and disposed to confront each said tab extension to limit rotational displacement of said mirror.
2. (original) The apparatus according to claim 1 wherein said overhanging structure and said mirror are maintained in sufficient differential in potential to permit detection of contact of said overhanging structure and said mirror through detection of voltage change.
3. (original) The apparatus according to claim 1 wherein said overhanging structure and said mirror are maintained in sufficient differential in potential to permit detection of contact of said overhanging structure and said mirror through detection of current change.
4. (original) The apparatus according to claim 1 wherein said overhanging structure and said mirror are maintained in equipotential.

5. (original) The apparatus according to claim 1 wherein said detectable differential is sufficiently small to inhibit arcing upon contact between said overhanging structure and said mirror or gimbal.

6. (original) The apparatus according to claim 1 wherein each of said first pair of hinge structures includes a gimbal wraparound for serving as rotational displacement limitation in confrontation with said overhanging structure.

7. (original) The apparatus according to claim 1 wherein said overhanging structure is disposed to provide a clear aperture at all design viewing angles of said mirror.

8-16. Canceled.

17. (original) The apparatus according to claim 1 wherein said overhanging structure is disposed over said mirror and mounted on a flipped SOI handle structure.

18. Canceled.

19. (original) The apparatus according to claim 1 wherein said overhanging structure is disposed over said mirror and formed in a bevel etched by potassium hydroxide.

20. Canceled.

21. (original) The apparatus according to claim 1 wherein said overhanging structure is disposed over said mirror and formed of a thinned silicon wafer.

22. Canceled.

23. (original) The apparatus according to claim 1 wherein said hinge structures are folded longitudinal gimbal hinge structures.

24. Canceled.

25. (original) The apparatus according to claim 1 wherein said folded longitudinal gimbal hinge structures attached to the gimbal are recessed into the mirror.

26. (original) The apparatus according to claim 1 wherein said mirror is round.